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EXAMINER	
ZHE, MENG YAO	

ART UNIT	PAPER NUMBER
2195	

NOTIFICATION DATE	DELIVERY MODE
12/11/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/695,056	LECTION ET AL.	
	Examiner	Art Unit	
	MENGYAO ZHE	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 August 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11 and 13-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 13-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-11 and 13-23 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-11 and 13-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The claim languages in the following claim languages are unclear and indefinite:

i) Claim 1, line 2, it is uncertain what the "at least one of a set of computing devices" is used for <i.e. is it used for the determining step or is it used as part of the available resource? The Examiner has interpreted it mean the former for the purpose of overcoming the 101 rejection prior>.

It is unclear what the "anticipated difference" is a difference of <i.e. a difference refers to two things, however, in the claim it only mentioned a difference in completing the execution. This is confusing because it is uncertain what the difference is between "the completing" and the other thing. It's the difference between what and what else?>.

Claims 7, 16, 21 have the same deficiencies as claim 1 above.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-11 and 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trossman et al., Pub. No. 2003/0149685 (hereafter Trossman) in view of Delp et al., Patent No. 5,996,013 (hereafter Delp) further in view of McCarthy et al., Patent No., 7,140,020 (hereafter McCarthy).

Trossman and Delp were cited in the previous office action.

As per claims 7, 16, 19, 21, 22, Trossman teaches determining a set of available resources within a computer system using at least one of a set of computing devices, each available resource being at least a portion of a component of the computer system currently unallocated to any process executing on the computer system and available for use by any process executing on the computer system (Para 104, 106);

Determining an anticipated benefit for the set of available resources for each process scheduled for execution on the computer system based on learned benefit

knowledge for each process using at least one of the set of computing devices (Para 60), the anticipated benefit for each process including an anticipated difference in completing the objectives of the process by the computer system should the set of available resources be allocated as additional resources for the process; and writing the anticipated benefit for each process to a recordable medium (Para 79, 80, 91, 94, 97).

Trossman does not specifically teach the benefit knowledge database including information on a previous execution performance-related measurement of the lagging process for a corresponding previous allocation of resources during a previous execution of the lagging process.

However, Delp teaches a benefit knowledge database including information on a previous execution performance-related measurement of a process for a corresponding previous allocation of resources during a previous execution of the process, for the purpose of reusing stored decisions to save time during current execution (Column 2, lines 40-65).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Trossman with a benefit knowledge database including information on a previous execution performance-related measurement of a process for a corresponding previous allocation of resources during a previous execution of the process, as taught by Delp, because it allows for a system to reuse previously stored decisions to save time during current execution.

Trossman in view of Delp does not specifically teach that the processes are actually completed when the objectives are reached. However McCarthy teaches that when the goal is reached, the processes are actually completed in execution for the purpose of terminating a transaction (Column 3, lines 60-67; Column 6, lines 1-15).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Trossman in view of Delp with the specifics of letting the process complete in execution, as taught by McCarthy, such that when the goal of Trossman's process is reached, the process completes in execution, because it allows a transaction to terminate.

As per claim 9, Trossman teaches determining an anticipated time savings for each process based on the anticipated benefit and a desired execution period (Para 79, 80).

As per claim 10, Trossman teaches wherein a plurality of the processes comprise sub-processes of a first process, further comprising determining a performance benefit for the first process (Para 80, 97).

As per claims 13, 18, 23, Trossman teaches allocating a set of required resources to each process; and executing each process using the allocated resources (Para 6, 83).

As per claim 14, Trossman does not specifically teach providing an execution result and a lag time of a first process to a second process, the lag time indicating a difference between an actual execution time and a desired execution period for the first process, wherein the second process requires the first process to complete execution before starting to execute.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to have a task dependency structure where one task may not execute unless the other task completes, and calculate the lag time between the two for further analysis in order to minimize lag time.

As per claim 15, Trossman teaches wherein the allocating step is further based on a minimum amount of the set of available resources that is required for the anticipated benefit (Para 83).

As per claim 20, Trossman does not specifically teach wherein each entry in the set of entries includes a relative performance change and a corresponding set of additional resources.

However, Delp teaches a resource allocator that stores the information of resource quantities allocated to previous requests for the purpose of reusing the information for the next resource allocation decision (Column 2, lines 43-64).

It would have been obvious to one having ordinary skill in the art the time of the applicant's invention to modify the teachings of using a performance characteristic database to anticipate allocation benefit, as taught by Trossman, with the specifics of storing the amount of resources allocated, as taught by Delp, such that each entry in the data base contains both a relative performance change and a corresponding set of additional resources, for the purpose of reusing this information for the next resource allocation decision.

As per claims 1, 11, Trossman teaches a method of managing processes, the method comprising:

Determining a set of available resources within a computer system, each available resource being at least a portion of a component of the computer system currently unallocated to any process executing on the computer system and available for use by any process executing on the computer system (Para 104, 106);

Determining a set of underperforming processes within a plurality of processes scheduled for execution on the computer system, each underperforming process not meeting execution objectives (Abstract; Para 6, 95; Pg 10, claim 5).

Determining an anticipated benefit for the set of available resources for each process using a benefit knowledge database (Para 60), the anticipated benefit for each process including an anticipated difference in at least one execution performance-related measurement for the execution of the process by the computer system should the set of available resources be allocated as additional resources for the process; and writing the anticipated benefit for each process to a recordable medium (Para 79, 80, 91, 94, 97).

Trossman does not specifically teach the benefit knowledge database including information on a previous execution performance-related measurement of the lagging process for a corresponding previous allocation of resources during a previous execution of the lagging process and that the processes not meeting the objectives are specifically lagging processes that are running behind a target schedule according to a set of execution results of a previously executed process related to the lagging process.

However, Delp teaches a benefit knowledge database including information on a previous execution performance-related measurement of a process for a corresponding previous allocation of resources during a previous execution of the process, for the purpose of reusing stored decisions to save time during current execution (Column 2, lines 40-65).

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Trossman with a benefit knowledge database including information on a previous execution performance-related

measurement of a process for a corresponding previous allocation of resources during a previous execution of the process, as taught by Delp, because it allows for a system to reuse previously stored decisions to save time during current execution.

Furthermore, McCarthy teaches a method of determining a set of lagging processes, each lagging process running behind a target schedule for the purpose of improving the performance of the identified lagging process and that the resources are given to processes in order to complete execution for the purpose of terminating the processes once the goal is reached (Column 3, lines 60-67; Column 4, line 67-Column 5, line 5; Column 6, lines 1-15);

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to combine the teachings of Trossman—a method of calculating anticipated benefit of allocating additional resources to process that are unable to meet their objectives—with the specifics of those not being able to meet objectives being considered as lagging processes and that resources are given to these lagging processes to let them complete execution, as taught by McCarthy, because it allows the processes to terminate when completing a goal.

As per claim 2, McCarthy teaches further comprising allocating the set of available resources to at least one of the set of lagging processes (Column 3, lines 60-67). Trossman teaches allocation of resources based on the anticipated benefit (Para 80).

As per claims 3, 6, 8, 17, Trossman does not specifically teach wherein the at least one of the set of lagging processes comprises a most responsive process for the set of available resources.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to give the resource to the most responsive process so that the resource may be best used for improvement of overall execution.

As per claim 4, Trassman teaches executing each process using its allocated resources (Para 83).

As per claim 5, Trossman does not specifically teach reallocating a resource allocated to an accelerated process to one of the set of lagging processes.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to transfer resources from a process that is over performing to a process that is under performing in order to improve the overall execution of the entire system.

Response to Arguments

4. Applicant's arguments filed on 11/15/2007 have been fully considered but are not persuasive.

In the remark, the applicant argued that:

i) Trossman teaches an application environment that is different from just an application. Therefore, everything calculated such as the benefit is for the application environment and not for just the application.

ii) Delp does not teach a benefit knowledge database.

5. The Examiner respectfully disagree with the applicant. As to point:

i) Although Trossman teaches an application environment that is composed of many things other than just the application it self, Trossman does teach that calculations such as the anticipated benefit may just be calculated for only one of the elements in the application environment (Para 60). Thus in the specific instance where everything is calculated for just the application in order to represent the entire application environment, it will then correspond to the applicant's claimed elements.

ii) In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In this case, Delp teaches a benefit knowledge database including information on a previous execution performance-related measurement of a process for a corresponding previous allocation of resources during a previous execution of the process, for the purpose of reusing stored decisions to save time during current execution (Column 2, lines 40-65). It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Trossman with a benefit knowledge database including information on a previous execution performance-related measurement of a process for a corresponding previous allocation of resources during a previous execution of the process, as taught by Delp, because it allows for a system to reuse previously stored decisions to save time during current execution.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MENGYAO ZHE whose telephone number is (571)272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/

Supervisory Patent Examiner, Art Unit 2195